US006515375B1

(12) **United States Patent**
**Beal**

(10) **Patent No.:**
(45) **Date of Patent:**

(54) **ADAPTIVE WAVE MOTION ELECTRICAL POWER GENERATOR**

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( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1 day.

(21) Appl. No.: **09/912,657**

(22) Filed: **Jul. 25, 2001**

(51) **Int. Cl.**[7] ..... **F03B 13/10**
(52) **U.S. Cl.** ..... **290/42**; 290/53
(58) **Field of Search** ..... 290/53, 42, 43, 290/54

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(57) **ABSTRACT**

An adaptive wave motion electrical power generation method and system are provided. An alternator, floating freely at a water's surface, has magnet and wire coil structures that undergo relative movement therebetween in response to wave motion at or near the water's surface thereby causing electric current to flow through the wire coil structure. Dynamic parameters (e.g., relative acceleration, velocity or displacement) describing the relative movement between the magnet and wire coil structures are measured. Also measured are the electric current flowing through the wire coil structure and voltage thereacross. The amount of electric current flowing in the wire coil structure and delivered to the load is controlled based on the dynamic parameters.

**25 Claims, 1 Drawing Sheet**